

ARGUMENTS

This is intended as a full and complete response to the Office Action dated October 12, 2005, having a shortened statutory period for response set to expire on January 12, 2006.

Claims 1-22 remain pending in the application and are shown above. Claims 1 and 5 have been amended. Claims 23 - 27 have been added by. No new matter has been added. Claims 1-22 stand rejected. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 1-2, 4-6, 8-16 and 21-22 stand rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over *Herchen et al* (U.S. Pat. 6,159,297). The Examiner asserts that *Herchen et al* discloses a process chamber comprising a substrate support member, an interferometer end point detection system mounted above and configured to detect a peripheral region of the substrate. Applicant respectfully responds to this rejection.

Herchen et al relates to a process chamber for processing a semiconductor substrate. According to *Herchen et al*, col. 9, lines 1 to 3, "*optical endpoint detection systems are useful to monitor the process of many processes being performed on a substrate, particularly etching processes...*". According to *Herchen et al*, col. 10, lines 50 to 53, "*the optical endpoint detection system compares the measured intensity and/or phase angle of the reflected light beam to a stored characteristic values to determine the endpoint of the etching process.*"

(Claims 1, 5, and 16 of the present application relate to photomasks as stated in the preamble of claims 1, 5, and 16 and as referred to by the substrate support configured to support a photomask substrate. A comparison with stored values as taught by *Herchen, et al* might be considered by a skilled person for processing substrates, because the same process on the substrate is conducted many times, however, the same photomask is only manufactured a few times over an extended period of time as compared to a substrate, which results in the fact that few or no data is

available to be stored for comparison. Thus, an endpoint detection system according to *Herchen et al* can not be expected to be applicable for photomasks, particularly without a test pattern that not taught or suggested by *Herchen et al*.

Therefore, *Herchen et al* does not teach, show, or suggest a photomask etch chamber comprising a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate, a ceiling disposed on the chamber, and an endpoint detection system configured to detect one or more test patterns disposed on a peripheral region of the photomask substrate, as recited in claim 1 and claims dependent thereon.

Herchen et al further does not teach, show, or suggest a photomask etch chamber, comprising a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate, a ceiling disposed on the chamber, and an interferometer endpoint detection system disposed through a peripheral region of the ceiling, wherein the interferometer endpoint detection system is configured to detect one or more test patterns disposed on a peripheral region of the photomask substrate, as recited in claim 5 and claims dependent thereon.

Herchen et al does also not teach, show, or suggest a photomask etch chamber, comprising a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate, and an interferometer endpoint detection system disposed through a peripheral region of the substrate support member, as recited in claim 16 and claims dependent thereon. Withdrawal of the rejection is respectfully requested. Claims 1-2, 4-14, 16, 18 and 21-22 stand rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over *Yohei Yamazawa* (JP 2001217227). The Examiner asserts that *Yamazawa* discloses a process chamber comprising a substrate support member, an interferometer end point detection system mounted above and configured to detect a peripheral region of the substrate. Applicant respectfully responds to this rejection.

Yamazawa relates to a process chamber for processing a semiconductor substrate. According to *Yamazawa*, "In a method for detecting end point, when a

polysilicon layer P on a gate oxide film G is etched using a plasma, the polysilicon layer P is irradiated with light...” *Yamazawa* relates to structures on substrates.

Contrary thereto, claims 1, 5 and 16 of the present application relates to photomasks as stated in the preamble of claims 1, 5 and 16 and as referred to by the substrate support configured to support a photomask substrate. A comparison with stored values might be considered by a skilled person for processing substrates, because the same process on the substrate is conducted many times, however, the same photomask is only manufactured a few times as compared to a substrate, which results in the fact that few or no data is available to be stored for comparison, and, thus, an endpoint detection system according to *Yamazawa* can not be expected to be applicable for photomasks, particularly without a test pattern not taught or suggested by *Yamazawa*.

Therefore, *Yamazawa* does not teach, show, or suggest a photomask etch chamber comprising a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate, a ceiling disposed on the chamber, and an endpoint detection system configured to detect one or more test patterns disposed on a peripheral region of the photomask substrate, as recited in claim 1 and claims dependent thereon.

Yamazawa further does not teach, show, or suggest a photomask etch chamber, comprising a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate, a ceiling disposed on the chamber, and an interferometer endpoint detection system disposed through a peripheral region of the ceiling, wherein the interferometer endpoint detection system is configured to detect one or more test patterns disposed on a peripheral region of the photomask substrate, as recited in claim 5 and claims dependent thereon.

Yamazawa does also not teach, show, or suggest a photomask etch chamber, comprising a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate, and an interferometer endpoint detection system disposed through a peripheral region of the substrate support member, as recited in claim 16 and claims dependent thereon. Withdrawal of the rejection is respectfully requested.

Claims 3, 17 and 19-20 stand rejected under 35 USC § 103(a) as being unpatentable over *Herchen et al* (U.S. Pat. 6,159,297) in view of *Mihashi et al* (JP 11058225). The Examiner asserts that *Herchen et al* discloses a process chamber comprising a substrate support member, an interferometer end point detection system mounted above and configured to detect a peripheral region of the substrate. Applicant respectfully responds to this rejection. Further, the Examiner asserts that *Mihashi et al* discloses detecting end point from the bottom side of the substrate and it would have been obvious to one of ordinary skill in the art at the time of invention to detect end point from below the substrate.

Arguments with respect to *Herchen et al* have been presented above. Since, according to *Mihashi et al*, "the wafer in polishing is rotated", a detection from the bottom side at a peripheral region is not shown by *Mihashi et al* and would also be impossible to be conducted by *Mihashi et al*. Therefore, *Herchen et al* and *Mihashi et al*, alone or in combination, do not teach, show, or suggest an interferometer endpoint detection system disposed through a peripheral region of the substrate support member, as recited in claims 3 or 16. Further, *Herchen et al* and *Mihashi et al*, alone or in combination, do not teach, show, or suggest a photomask etch chamber comprising a substrate support member disposed inside the chamber, wherein the substrate support member is configured to support a photomask substrate, as recited in claim 1, 5 and 16. Withdrawal of the rejection is respectfully requested.

Therefore, *Herchen et al*, *Yamazawa*, and *Mihashi et al*, alone or in combination, do not teach, show, or suggest the apparatuses of claims 1, 5 and 16, and claims dependent thereon. In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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